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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,493	01/21/2000	TOSHIYUKI MORII	P18963	5153

7590 03/19/2003

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RESTON, VA 20191

EXAMINER

ARMSTRONG, ANGELA A

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 03/19/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/462,493

Applicant(s)

MORII ET AL

Examiner

Angela A. Armstrong

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 8-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3-6, and 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minde et al (US Patent No. 5,991,717) in view of Zinser (US Patent No. 5,060,269).

2. Regarding claims 1, 3-6, and 8-20, Minde teaches

an adaptive codebook in which previously synthesized excitation signals are stored; at col. 2, line 64 and col. 3, lines 33-38

a stochastic codebook in which a plurality of excitation vectors are stored, said stochastic codebook having a first subcodebook in which excitation vectors composed of a small number of pulses are stored and a second subcodebook in which excitation vectors composed of a large number of pulses are stored; at col. 7, lines 3-12

obtaining a synthesized speech using excitation information acquired from said adaptive codebook and said stochastic codebook, using LPC obtained by performing LPC analysis on an input speech signal; at col. 2, line 65

obtaining gain information for said synthesized speech using a relation of said synthesized speech and said input speech signal; at col. 3, lines 6-25

transmitting said LPC, said excitation information and said gain information, as inherent in the speech coder.

Minde et al do not specifically teach executing a voice/unvoiced judgment or calculating the gain of the stochastic codebook to account for the difference in the number of pulses in the codebooks.

Refer to Zinser who teaches a hybrid switched multi-pulse/stochastic speech coding technique, which makes a voice/unvoiced judgment and implements a modified method for calculating the gain during stochastic excitation (abstract), for the purpose of improving unvoiced speech performance in low-rate coders.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Minde et al to implement voice/unvoiced judgments and modified method for calculating the gain during stochastic excitation, as taught by Zinser, for the purpose of improving unvoiced speech performance in low-rate coders.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 11-12, and 15 have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's arguments with respect to claims 3-6, 8-10, 13-14, and 15-20, filed January 2, 2003, have been fully considered but they are not persuasive.

Regarding claims 5, 10, 18 and 20, applicant argues that neither Minde, Zinser, nor any proper combination thereof, disclose an instructor that instructs an excitation vector to be

acquired from a first subcodebook and said second subcodebook corresponding to a distance between excitation vectors in said first subcodebook.

Regarding claims 6, 13, and 17, applicant argues that neither Minde, Zinser, nor any proper combination thereof, disclose a controller that controls a gain for respective excitation vectors in a first subcodebook and a second subcodebook corresponding to a distance between pulses of the excitation vectors in said first subcodebook.

In response to Applicants arguments regarding claims 5-6, 10, 13, 17-18, and 20, the Examiner disagrees and argues that Zinser teaches a hybrid switched multi-pulse/stochastic speech coding technique, which makes a voice/unvoiced judgment and implements a modified method for calculating the gain during stochastic excitation (abstract, col. 4, line 58 continuing to col. 5, line48). The voiced/unvoiced determination of Zinser is based on pulse distances; the distance between the pulses exist via the voice/unvoiced relationship. Thus, the teachings of Zinser reads on "...corresponding to a distance between excitation vectors in said first subcodebook" and "...corresponding to a distance between pulses of the excitation vectors in said first subcodebook." Therefore, the combination of Minde and Zinser read on the limitations of claims 5-6, 10, 13, 17-18, and 20.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2654

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 703-308-6258. The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Angela A. Armstrong
Examiner
Art Unit 2654

AAA
March 13, 2003

Marsha D Banks-Harold
MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600